appended claims.

WHAT IS CLAIMED IS:

1. An ink-jet recording apparatus comprising:

an ink-jet recording head mounted on a carriage which travels in the widthwise direction of a recording medium for recording an image thereon by ejecting ink droplets from nozzle orifices provided therewith;

a flushing region situated on the traveling path of the carriage in at least one of non-print regions which are arranged both sides of a print region, the flushing region including an ink absorbing member for receiving ink droplets ejected from the recording head when a flushing operation is performed;

capping means provided in one of the non-print regions for sealing the nozzle orifices; and

a guide member disposed in the flushing region and having a slant surface on which the ink droplets land and flow toward the ink absorbing member.

2. The ink-jet recording apparatus as set forth in claim 1, wherein the flushing region includes a plate member provided with an aperture through which the ink droplets pass, and

wherein the aperture is situated between the recording head and the guide member.

3. The ink-jet recording apparatus as set forth in claim 2, wherein the respective apertures are larger than a size of surface on which the nozzle

orifices are formed.

4. The ink-jet recording apparatus as set forth in claim 1, wherein an extending direction of the slant surface is arbitrarily selected with respect to the traveling direction of the carriage.

5. The ink-jet recording apparatus as set forth in claim 1, wherein a slant angle of the slant surface is set within a domain of $30° < \theta < 60°$.

6. The ink-jet recording apparatus as set forth in claim 1, wherein a water-repellent layer is formed on the slant surface.

7. The ink-jet recording apparatus as set forth in claim 1, wherein the recording head ejects a plurality colors of ink such that ink, which is easier to accumulate on the slant surface, lands on a lower position of the slant surface.

8. The ink-jet recording apparatus as set forth in claim 7, wherein a landing position of black ink is lower than landing positions of any other colors of ink.

9. The ink-jet recording apparatus as set forth in claim 1, wherein the guide member is provided as a plurality of plate members for receiving the ink droplets at a predetermined angle with respect to a flight direction of the ink droplets.

10. The ink-jet recording apparatus as set forth in claim 9, wherein the plural plate members are arranged within a cylindrical casing at substantially equal intervals and at the predetermined angle.

11. The ink-jet recording apparatus as set forth in claim 10, wherein a cylindrical guide body is extended from the cylindrical casing continuously and downwardly for leading the received ink to the ink absorbing member.

12. The ink-jet recording apparatus as set forth in claim 9, wherein the predetermined angle is set within a domain of 40 to 80 degrees.

13. The ink-jet recording apparatus as set forth in claim 1, wherein the flushing region is situated each of the non-print regions.

14. The ink-jet recording apparatus as set forth in claim 1, wherein the flushing operation includes a first flushing for ejecting ink droplets of a first ink and a second flushing for ejecting ink droplets a second ink different from the first ink, and

wherein the first flushing is performed at a first position in the flushing region, and the second flushing is performed at a second position of the flushing region.

15. The ink-jet recording apparatus as set forth in claim 14, wherein the first flushing and the second flushing is performed in order.

16. The ink-jet recording apparatus as set forth in claim 14, wherein the second flushing is performed without stopping the carriage.

17. The ink-jet recording apparatus as set forth in claim 14, wherein the first flushing is performed before the carriage starts to travel.

18. The ink-jet recording apparatus as set forth in claim 14, wherein the first flushing is performed without stopping the carriage.

19. The ink-jet recording apparatus as set forth in claim 14, wherein the first position and the second position are fixed.

20. The ink-jet recording apparatus as set forth in claim 14, wherein one of the first and second positions is fixed and the other is variable.

21. The ink-jet recording apparatus as set forth in claim 14, wherein the recording head includes three pairs of nozzle orifice arrays, and

wherein a distance X between the first and second positions satisfies one of the following relationships:

$L1-L2 \leq X \leq L1+L2$, and

$2(L1-L2) \leq X \leq 2(L1+L2)$

where L1 denotes a distance between the respective pairs of nozzle orifice arrays, and L2 denotes a distance between the respective nozzle orifice arrays.

22. The ink-jet recording apparatus as set forth in claim 14, wherein the first position is situated at an outer traveling limit of the carriage, and a second position is situated where is closer to the print region than the first position.

23. The ink-jet recording apparatus as set forth in claim 22, wherein the first ink is black ink, and the second ink is at least one of cyan ink, magenta ink and yellow ink.

24. The ink-jet recording apparatus as set forth in claim 22, wherein the first ink is at least one of cyan ink, magenta ink and yellow ink, and the second ink is black ink.

25. The ink-jet recording apparatus as set forth in claim 1, further comprising a flushing position controller including means for inputting a value for adjusting a timing of outputting a flushing drive signal for triggering the flushing operation.

26. The ink-jet recording apparatus as set forth in claim 25, wherein the adjusting value is inputted as a first value for correcting a preset flushing position of one of the nozzle orifice of the recording head.

27. The ink-jet recording apparatus as set forth in claim 26, wherein the first correcting value is managed by counting reference pulses, and

wherein a second correcting value for a preset flushing position of another nozzle orifice is managed by a delay time period from a flushing drive

signal based on the first correcting value.

28. The ink-jet recording apparatus as set forth in claim 26, wherein the first correcting value is managed by counting reference pulses, and

wherein a second correcting value for a preset flushing position of another nozzle orifice is also managed by counting the reference pulses.

29. The ink-jet recording apparatus as set forth in claim 26, wherein the reference pulses is an encoder signal generated according to the traveling of the carriage.

30. The ink-jet recording apparatus as set forth in claim 29, further comprising a non-volatile memory for storing the correcting values, and

wherein the output timing of the flushing drive signal is determined with reference to the correcting values in the non-volatile memory and the encoder signal.

31. The ink-jet recording apparatus as set forth in claim 25, further comprising a plate member provided with an aperture situated in the flushing region,

wherein the aperture is situated between the recording head and the guide member, and

wherein the aperture is smaller than a size of surface on which the nozzle orifices are formed.

32. The ink-jet recording apparatus as set forth in claim 25, wherein the nozzle orifices form a plurality of nozzle rows in the recording head; and

wherein the flushing position controller controls the flushing operation such that each nozzle row coming to a predetermined flushing position starts to eject ink drops.

33. The ink-jet recording apparatus as set forth in claim 32, wherein a nozzle row arranged further from the moving direction of the carriage when the flushing operation is performed is used for ejecting ink which requires less flushing operation.

34. The ink-jet recording apparatus as set forth in claim 32, wherein the flushing operation is performed when the carriage is accelerated.

35. The ink-jet recording apparatus as set forth in claim 25, wherein the nozzle orifices form a plurality of nozzle rows in the recording head; and

wherein the flushing position controller controls the flushing operation such that all nozzle rows ejects ink drops when the carriage starts to move.

36. The ink-jet recording apparatus as set forth in claim 35, wherein a nozzle row arranged further from the moving direction of the carriage when the flushing operation is performed is used for ejecting ink which requires less flushing operation.

37. The ink-jet recording apparatus as set forth in claim 1, further comprising a ventilation fan,

wherein the ventilation fan is halted during the flushing operation.

38. An ink-jet recording apparatus comprising:

an ink-jet recording head mounted on a carriage which travels in the widthwise direction of a recording medium for recording an image thereon by ejecting ink droplets from nozzle orifices provided therewith; and

a flushing region situated on the traveling path of the carriage in at least one of non-print regions which are arranged both sides of a print region, the flushing region including a porous sheet member for receiving ink droplets ejected from the recording head when a flushing operation is performed, and an ink absorbing member for absorbing ink received by the porous sheet member.

39. The ink-jet recording apparatus as set forth in claim 38, wherein a distance between the porous sheet member and a surface on which the nozzle orifices are formed is set within a domain of 1 to 5 mm when the flushing operation is performed.

40. The ink-jet recording apparatus as set forth in claim 38, wherein the porous sheet member is hydrophilic.

41. The ink-jet recording apparatus as set forth in claim 38, wherein a mean pore size of the porous sheet is set within a domain of 100 to 500 μm.

42. The ink-jet recording apparatus as set forth in claim 38, wherein the periphery of the porous sheet member is enclosed by a case, and

wherein the ink ejected during flushing operation flows along the interior of the case and is absorbed by the ink absorbing member.

43. The ink-jet recording apparatus as set forth in claim 41, wherein a lower end of the porous sheet member contacts with an inner face of the casing.

44. The ink-jet recording apparatus as set forth in claim 43, wherein the lower end of the porous sheet member is partially notched such that an opening is defined by the notch and the inner face of the casing.

45. The ink-jet recording apparatus as set forth in claim 44, wherein the opening is situated so as not to face the nozzle forming surface when the flushing operation is performed.

46. The ink-jet recording apparatus as set forth in claim 41, wherein the porous sheet member is secured to the casing by a fixing member, and

the fixing member is situated so as not to face the nozzle forming surface when the flushing operation is performed.

47. The ink-jet recording apparatus as set forth in claim 38, wherein the flushing region is situated each of the non-print regions.

48. The ink-jet recording apparatus as set forth in claim 38, wherein the flushing operation includes a first flushing for ejecting ink droplets of a first ink and a second flushing for ejecting ink droplets a second ink different from the first ink, and

wherein the first flushing is performed at a first position in the flushing region, and the second flushing is performed at a second position of the flushing region.

49. The ink-jet recording apparatus as set forth in claim 48, wherein the first flushing and the second flushing is performed in order.

50. The ink-jet recording apparatus as set forth in claim 48, wherein the second flushing is performed without stopping the carriage.

51. The ink-jet recording apparatus as set forth in claim 48, wherein the first flushing is performed before the carriage starts to travel.

52. The ink-jet recording apparatus as set forth in claim 48, wherein the first flushing is performed without stopping the carriage.

53. The ink-jet recording apparatus as set forth in claim 48, wherein the first position and the second position are fixed.

54. The ink-jet recording apparatus as set forth in claim 48, wherein one of the first and second positions is fixed and the other is variable.

55. The ink-jet recording apparatus as set forth in claim 48, wherein the recording head includes three pairs of nozzle orifice arrays, and

wherein a distance X between the first and second positions satisfies one of the following relationships:

$L1-L2 \leq X \leq L1+L2$, and

$2(L1-L2) \leq X \leq 2(L1+L2)$

where L1 denotes a distance between the respective pairs of nozzle orifice arrays, and L2 denotes a distance between the respective nozzle orifice arrays.

56. The ink-jet recording apparatus as set forth in claim 48, wherein the first position is situated at an outer traveling limit of the carriage, and a second position is situated where is closer to the print region than the first position.

57. The ink-jet recording apparatus as set forth in claim 56, wherein the first ink is black ink, and the second ink is at least one of cyan ink, magenta ink and yellow ink.

58. The ink-jet recording apparatus as set forth in claim 56, wherein the first ink is at least one of cyan ink, magenta ink and yellow ink, and the second ink is black ink.

59. The ink-jet recording apparatus as set forth in claim 38, further comprising a flushing position controller including means for inputting a value for adjusting a timing of outputting a flushing drive signal for triggering the flushing operation.

60. The ink-jet recording apparatus as set forth in claim 59, wherein the adjusting value is inputted as a first value for correcting a preset flushing position of one of the nozzle orifice of the recording head.

61. The ink-jet recording apparatus as set forth in claim 60, wherein the first correcting value is managed by counting reference pulses, and

wherein a second correcting value for a preset flushing position of another nozzle orifice is managed by a delay time period from a flushing drive signal based on the first correcting value.

62. The ink-jet recording apparatus as set forth in claim 60, wherein the first correcting value is managed by counting reference pulses, and

wherein a second correcting value for a preset flushing position of another nozzle orifice is also managed by counting the reference pulses.

63. The ink-jet recording apparatus as set forth in claim 60, wherein the reference pulses is an encoder signal generated according to the traveling of the carriage.

64. The ink-jet recording apparatus as set forth in claim 63, further comprising a non-volatile memory for storing the correcting values, and

wherein the output timing of the flushing drive signal is determined with reference to the correcting values in the non-volatile memory and the encoder signal.

65. The ink-jet recording apparatus as set forth in claim 59, further comprising a plate member provided with an aperture situated in the flushing region,

wherein the aperture is situated between the recording head and the ink absorbing member, and

wherein the aperture is smaller than a size of surface on which the nozzle orifices are formed.

66. The ink-jet recording apparatus as set forth in claim 59, wherein the nozzle orifices form a plurality of nozzle rows in the recording head; and

wherein the flushing position controller controls the flushing operation such that each nozzle row coming to a predetermined flushing position starts to eject ink drops.

67. The ink-jet recording apparatus as set forth in claim 66, wherein a nozzle row arranged further from the moving direction of the carriage when the flushing operation is performed is used for ejecting ink which requires less flushing operation.

68. The ink-jet recording apparatus as set forth in claim 66, wherein the *flushing operation is performed when the carriage is accelerated.*

69. The ink-jet recording apparatus as set forth in claim 59, wherein the nozzle orifices form a plurality of nozzle rows in the recording head; and

wherein the flushing position controller controls the flushing operation such that all nozzle rows ejects ink drops when the carriage starts to move.

70. The ink-jet recording apparatus as set forth in claim 69, wherein a nozzle row arranged further from the moving direction of the carriage when the flushing operation is performed is used for ejecting ink which requires less flushing operation.

71. The ink-jet recording apparatus as set forth in claim 38, further comprising a ventilation fan,

wherein the ventilation fan is halted during the flushing operation.

72. An ink-jet recording apparatus comprising:

a plurality of ink-jet recording heads mounted on a carriage which travels in the widthwise direction of a recording medium for recording an image thereon by ejecting ink droplets from nozzle orifices provided therewith;

a flushing region situated on the traveling path of the carriage in at least one of non-print regions which are arranged both sides of a print region, *the flushing region for receiving ink droplets ejected from the moving recording* head when a flushing operation is performed; and

a flushing position controller including means for inputting a value for adjusting a timing of outputting a flushing drive signal for triggering the flushing operation.

73. The ink-jet recording apparatus as set forth in claim 72, wherein the adjusting value is inputted as a first value for correcting a preset flushing position of one of the plural recording heads.

74. The ink-jet recording apparatus as set forth in claim 73, wherein the first correcting value is managed by counting reference pulses, and

wherein a second correcting value for a preset flushing position of the other recording head is managed by a delay time period from a flushing drive signal based on the first correcting value.

75. The ink-jet recording apparatus as set forth in claim 73, wherein the first correcting value is managed by counting reference pulses, and

wherein a second correcting value for a preset flushing position of the other recording head is also managed by counting the reference pulses.

76. The ink-jet recording apparatus as set forth in claim 73, wherein the reference pulses is an encoder signal generated according to the traveling of the carriage.

77. The ink-jet recording apparatus as set forth in claim 76, further comprising a non-volatile memory for storing the correcting values, and

wherein the output timing of the flushing drive signal is determined with reference to the correcting values in the non-volatile memory and the encoder signal.

78. The ink-jet recording apparatus as set forth in claim 72, further comprising:

a plate member provided with an aperture situated in the flushing region; and

an ink absorbing member for receiving the ink droplets which have been passed through the aperture,

wherein the aperture is smaller than a total size of surface of the plural recording heads on which the nozzle orifices are formed.